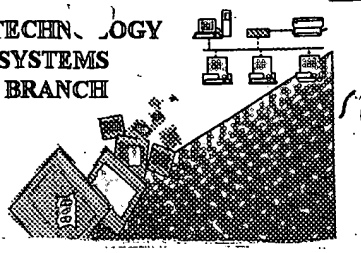
Fab Copy

BIOTECHNOLOGY SYSTEMS BRANCH



1600

1636

#14

# RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/689,343C
Source: 1600
Date Processed by STIC: 7/19/02

RECEIVED
AUG 14 2002
TECH CENTER 1600/2900

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.
PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)
PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:
http://www.uspto.gov/web/offices/pac/checker

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.
Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.
Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>, EFS Submission User Manual - ePAVE)
2. **U.S. Postal Service:** U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. **Hand Carry directly to:**
   U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202
   Or
   U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. **Federal Express, United Parcel Service, or other delivery service to:** U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

RECEIVED
AUG 1 4 2002
TECH CENTER 1600/2900

1600

Does Not Comply
Corrected Diskette Needed

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/689,343C

DATE: 07/19/2002 Error on p. 5
TIME: 14:59:20

Input Set : A:\NEB-181.ST25.txt
Output Set: N:\CRF3\07192002\I689343C.raw

```
  3 <110> APPLICANT: Vaisvila, Romualdus
  4       Morgan, Richard D.
  5       Kucera, Rebecca B.
  6       Claus, Toby B.
  7       Raleigh, Elisabeth A.
  9 <120> TITLE OF INVENTION: Method For Cloning And Producing The MseI Restriction
Endonuclease
 11 <130> FILE REFERENCE: NEB-181
 13 <140> CURRENT APPLICATION NUMBER: US 09/689,343C
 14 <141> CURRENT FILING DATE: 2000-10-12
 16 <160> NUMBER OF SEQ ID NOS: 9
 18 <170> SOFTWARE: PatentIn version 3.1
 20 <210> SEQ ID NO: 1
 21 <211> LENGTH: 903
 22 <212> TYPE: DNA
 23 <213> ORGANISM: Micrococcus sp.
 25 <220> FEATURE:
 26 <221> NAME/KEY: CDS
 27 <222> LOCATION: (1)..(900)
 28 <223> OTHER INFORMATION:
 30 <400> SEQUENCE: 1
 32 atg cct atc tcg acc gtc tgg acg ccg gac gga gac gac ctc atc gtg       48
 33 Met Pro Ile Ser Thr Val Trp Thr Pro Asp Gly Asp Asp Leu Ile Val
 34 1               5                  10                  15
 36 gag gcg gac aac ctc gat ttc att caa acg ctc ccc gac gcg agc ttc       96
 37 Glu Ala Asp Asn Leu Asp Phe Ile Gln Thr Leu Pro Asp Ala Ser Phe
 38             20                  25                  30
 40 cga atg atc tac atc gat ccg ccg ttc aac aca ggg cga acg cag cgg      144
 41 Arg Met Ile Tyr Ile Asp Pro Pro Phe Asn Thr Gly Arg Thr Gln Arg
 42         35                  40                  45
 44 ctt cag tcg ctc aag acg acc cgc tcg gtc aca ggg tcg cga gtc ggc      192
 45 Leu Gln Ser Leu Lys Thr Thr Arg Ser Val Thr Gly Ser Arg Val Gly
 46     50                  55                  60
 48 ttc aaa ggc cag acg tac gac acg gtc aag agc act ctg cac tcg tat      240
 49 Phe Lys Gly Gln Thr Tyr Asp Thr Val Lys Ser Thr Leu His Ser Tyr
 50 65                  70                  75                  80
 52 gac gac gct ttc acc gac tat tgg tcg ttc ctc gaa ccg cgt ctc ctg      288
 53 Asp Asp Ala Phe Thr Asp Tyr Trp Ser Phe Leu Glu Pro Arg Leu Leu
 54                 85                  90                  95
 56 gag gct tgg cgg ttg ctc acc cct gac ggc gcg ctc tat ctt cat ctg      336
 57 Glu Ala Trp Arg Leu Leu Thr Pro Asp Gly Ala Leu Tyr Leu His Leu
 58             100                 105                 110
 60 gat tac cgc gag gtt cac tac gcc aag gtc gtc ctc gac gcg atg ttc      384
 61 Asp Tyr Arg Glu Val His Tyr Ala Lys Val Val Leu Asp Ala Met Phe
```

RAW SEQUENCE LISTING DATE: 07/19/2002
PATENT APPLICATION: US/09/689,343C TIME: 14:59:20

Input Set : A:\NEB-181.ST25.txt
Output Set: N:\CRF3\07192002\I689343C.raw

```
62          115                 120                 125
64 gga cgc gaa agc ttc ctg aac gag ctg atc tgg gcg tac gac tac ggc      432
65 Gly Arg Glu Ser Phe Leu Asn Glu Leu Ile Trp Ala Tyr Asp Tyr Gly
66     130                 135                 140
68 gcg cgc tcg aag agc aag tgg ccc acc aag cac gac aac atc ctc gtg      480
69 Ala Arg Ser Lys Ser Lys Trp Pro Thr Lys His Asp Asn Ile Leu Val
70 145                 150                 155                 160
72 tat gtg aag gac ccg aac aac tac gtc tgg aac ggt cag gat gta gat      528
73 Tyr Val Lys Asp Pro Asn Asn Tyr Val Trp Asn Gly Gln Asp Val Asp
74                  165                 170                 175
76 cgc gag ccc tac atg gcg ccc ggg ctc gtt aca ccc gag aag gta gcg      576
77 Arg Glu Pro Tyr Met Ala Pro Gly Leu Val Thr Pro Glu Lys Val Ala
78              180                 185                 190
80 ctt ggc aag ctg ccc acc gac gtc tgg tgg cac aca atc gtt ccg cct      624
81 Leu Gly Lys Leu Pro Thr Asp Val Trp Trp His Thr Ile Val Pro Pro
82          195                 200                 205
84 gcg agc aaa gag cgc acc ggg tac gcg aca cag aag ccg gtc ggc atc      672
85 Ala Ser Lys Glu Arg Thr Gly Tyr Ala Thr Gln Lys Pro Val Gly Ile
86      210                 215                 220
88 atc cgt cgc atg att cag gcg agc agc aat gaa ggc gac tgg gtt ctg      720
89 Ile Arg Arg Met Ile Gln Ala Ser Ser Asn Glu Gly Asp Trp Val Leu
90 225                 230                 235                 240
92 gat ttc ttc gct ggt agt ggg acg acc ggc gcc gcg gcc cgc cag ctc      768
93 Asp Phe Phe Ala Gly Ser Gly Thr Thr Gly Ala Ala Ala Arg Gln Leu
94                  245                 250                 255
96 gga cgc cgt ttt gtg ctc gta gac gtc aac cca gaa gca atc gcg gta      816
97 Gly Arg Arg Phe Val Leu Val Asp Val Asn Pro Glu Ala Ile Ala Val
98              260                 265                 270
100 atg gca aaa cgg ttg gat gac ggg gca ttg gac acc agc gtg acg atc      864
101 Met Ala Lys Arg Leu Asp Asp Gly Ala Leu Asp Thr Ser Val Thr Ile
102         275                 280                 285
104 gtg cag act ccc cag agt gac cca cga acc gac gga tga                 903
105 Val Gln Thr Pro Gln Ser Asp Pro Arg Thr Asp Gly
106     290                 295                 300
109 <210> SEQ ID NO: 2
110 <211> LENGTH: 300
111 <212> TYPE: PRT
112 <213> ORGANISM: Micrococcus sp.
114 <400> SEQUENCE: 2
116 Met Pro Ile Ser Thr Val Trp Thr Pro Asp Gly Asp Asp Leu Ile Val
117 1               5                   10                  15
119 Glu Ala Asp Asn Leu Asp Phe Ile Gln Thr Leu Pro Asp Ala Ser Phe
120             20                  25                  30
122 Arg Met Ile Tyr Ile Asp Pro Pro Phe Asn Thr Gly Arg Thr Gln Arg
123         35                  40                  45
125 Leu Gln Ser Leu Lys Thr Thr Arg Ser Val Thr Gly Ser Arg Val Gly
126     50                  55                  60
128 Phe Lys Gly Gln Thr Tyr Asp Thr Val Lys Ser Thr Leu His Ser Tyr
129 65                  70                  75                  80
```

RAW SEQUENCE LISTING DATE: 07/19/2002
PATENT APPLICATION: US/09/689,343C TIME: 14:59:20

Input Set : A:\NEB-181.ST25.txt
Output Set: N:\CRF3\07192002\I689343C.raw

```
131 Asp Asp Ala Phe Thr Asp Tyr Trp Ser Phe Leu Glu Pro Arg Leu Leu
132                 85                  90                  95
134 Glu Ala Trp Arg Leu Leu Thr Pro Asp Gly Ala Leu Tyr Leu His Leu
135             100                 105                 110
137 Asp Tyr Arg Glu Val His Tyr Ala Lys Val Val Leu Asp Ala Met Phe
138         115                 120                 125
140 Gly Arg Glu Ser Phe Leu Asn Glu Leu Ile Trp Ala Tyr Asp Tyr Gly
141     130                 135                 140
143 Ala Arg Ser Lys Ser Lys Trp Pro Thr Lys His Asp Asn Ile Leu Val
144 145                 150                 155                 160
146 Tyr Val Lys Asp Pro Asn Asn Tyr Val Trp Asn Gly Gln Asp Val Asp
147                 165                 170                 175
149 Arg Glu Pro Tyr Met Ala Pro Gly Leu Val Thr Pro Glu Lys Val Ala
150             180                 185                 190
152 Leu Gly Lys Leu Pro Thr Asp Val Trp Trp His Thr Ile Val Pro Pro
153         195                 200                 205
155 Ala Ser Lys Glu Arg Thr Gly Tyr Ala Thr Gln Lys Pro Val Gly Ile
156     210                 215                 220
158 Ile Arg Arg Met Ile Gln Ala Ser Ser Asn Glu Gly Asp Trp Val Leu
159 225                 230                 235                 240
161 Asp Phe Phe Ala Gly Ser Gly Thr Thr Gly Ala Ala Ala Arg Gln Leu
162                 245                 250                 255
164 Gly Arg Arg Phe Val Leu Val Asp Val Asn Pro Glu Ala Ile Ala Val
165             260                 265                 270
167 Met Ala Lys Arg Leu Asp Asp Gly Ala Leu Asp Thr Ser Val Thr Ile
168         275                 280                 285
170 Val Gln Thr Pro Gln Ser Asp Pro Arg Thr Asp Gly
171     290                 295                 300
173 <210> SEQ ID NO: 3
174 <211> LENGTH: 1236
175 <212> TYPE: DNA
176 <213> ORGANISM: Unknown
178 <220> FEATURE:
179 <223> OTHER INFORMATION: Environmental DNA
181 <220> FEATURE:
182 <221> NAME/KEY: CDS
183 <222> LOCATION: (1)..(1233)
184 <223> OTHER INFORMATION:
186 <220> FEATURE:
187 <221> NAME/KEY: misc_feature
188 <222> LOCATION: (198)..(198)
189 <223> OTHER INFORMATION: Xaa = any amino acid
191 <220> FEATURE:
192 <221> NAME/KEY: misc_feature
193 <222> LOCATION: (594)..(594)
194 <223> OTHER INFORMATION: N= G, A, C or T
196 <400> SEQUENCE: 3
198 atg cct aca ctg gat tgg ccc ggt aaa cag tta agc ttc cca cca gct      48
199 Met Pro Thr Leu Asp Trp Pro Gly Lys Gln Leu Ser Phe Pro Pro Ala
```

**RAW SEQUENCE LISTING** DATE: 07/19/2002
PATENT APPLICATION: **US/09/689,343C** TIME: 14:59:20

Input Set : **A:\NEB-181.ST25.txt**
Output Set: **N:\CRF3\07192002\I689343C.raw**

```
200 1               5                   10                  15
202 acc tcc ttg cat ctg gag agt gtg gtc act gag gga gcg gag tca ccg       96
203 Thr Ser Leu His Leu Glu Ser Val Val Thr Glu Gly Ala Glu Ser Pro
204             20                  25                  30
206 cct aat cgt ctg att tgg gcg gac aac ctg ccg cta atg gta gat ttg      144
207 Pro Asn Arg Leu Ile Trp Ala Asp Asn Leu Pro Leu Met Val Asp Leu
208         35                  40                  45
210 ttg gcc gaa tat gaa ggg aaa atc gat ctg atc tac gcc gat ccc cct      192
211 Leu Ala Glu Tyr Glu Gly Lys Ile Asp Leu Ile Tyr Ala Asp Pro Pro
212     50                  55                  60
214 ttt ttt acg gat cgt act tat gcg gcg cga att ggt cat ggg gag gat      240
215 Phe Phe Thr Asp Arg Thr Tyr Ala Ala Arg Ile Gly His Gly Glu Asp
216 65                  70                  75                  80
218 tcg cgt cgt cca caa acc tgg cag ctt gca gaa gga tat acg gac gag      288
219 Ser Arg Arg Pro Gln Thr Trp Gln Leu Ala Glu Gly Tyr Thr Asp Glu
220                 85                  90                  95
222 tgg aag gat tta gat gaa tac ctg gac ttc ctt tat cca cgc ctg gta      336
223 Trp Lys Asp Leu Asp Glu Tyr Leu Asp Phe Leu Tyr Pro Arg Leu Val
224             100                 105                 110
226 ctg atg tat cga ctg ctg gca cca cac gga acg ctc tac ttg cac ctg      384
227 Leu Met Tyr Arg Leu Leu Ala Pro His Gly Thr Leu Tyr Leu His Leu
228         115                 120                 125
230 gac tgg cac gcc aat gcc tac gta cgt gta ctg ctt gat gag atc ttc      432
231 Asp Trp His Ala Asn Ala Tyr Val Arg Val Leu Leu Asp Glu Ile Phe
232     130                 135                 140
234 ggg cga cag cgg ttt ctc aac gag atc gtc tgg atc tat cac ggc ccc      480
235 Gly Arg Gln Arg Phe Leu Asn Glu Ile Val Trp Ile Tyr His Gly Pro
236 145                 150                 155                 160
238 tca gcc atc cga cgc gcc ttc aag cgc aaa cat gat acc atc ttg gtt      528
239 Ser Ala Ile Arg Arg Ala Phe Lys Arg Lys His Asp Thr Ile Leu Val
240                 165                 170                 175
242 tat gtg aaa ggt gaa aac tat aca ttc aat gcg gat gcg gtt cgt caa      576
243 Tyr Val Lys Gly Glu Asn Tyr Thr Phe Asn Ala Asp Ala Val Arg Gln
244             180                 185                 190
W--> 246 cct tac cat ccg agc acn cat aag acc ttc gct tcc tcc ccg aag gcc      624
W--> 247 Pro Tyr His Pro Ser Xaa His Lys Thr Phe Ala Ser Ser Pro Lys Ala
248         195                 200                 205
250 ggc ttt ggt aag gtg ccg gat ctg cag cgc ggc aaa gtg ccc gaa gac      672
251 Gly Phe Gly Lys Val Pro Asp Leu Gln Arg Gly Lys Val Pro Glu Asp
252     210                 215                 220
254 tgg tgg tat ttt ccg gtc gtg gcc cgt cta cac cga gaa cgg agc ggc      720
255 Trp Trp Tyr Phe Pro Val Val Ala Arg Leu His Arg Glu Arg Ser Gly
256 225                 230                 235                 240
258 tat ccg act caa aag cct caa gcc ttg ctg gag cgg atc ctg ctg gcc      768
259 Tyr Pro Thr Gln Lys Pro Gln Ala Leu Leu Glu Arg Ile Leu Leu Ala
260                 245                 250                 255
262 tcc tcg aac gca ggc gat ctg gtg gca gac ttc ttc tgc ggc tca ggg      816
263 Ser Ser Asn Ala Gly Asp Leu Val Ala Asp Phe Phe Cys Gly Ser Gly
264             260                 265                 270
```

**RAW SEQUENCE LISTING** DATE: 07/19/2002
PATENT APPLICATION: **US/09/689,343C** TIME: 14:59:21

Input Set : **A:\NEB-181.ST25.txt**
Output Set: **N:\CRF3\07192002\I689343C.raw**

```
266 aca acc gct gtg gtg gca gcc cgt ctg gga cgg cgc ttc ctg gtc aac      864
267 Thr Thr Ala Val Val Ala Ala Arg Leu Gly Arg Arg Phe Leu Val Asn
268         275                 280                 285
270 gat gca agc tgg cgc gcc gtt cat gtg aca cgc aca cgc ttg cta cgc      912
271 Asp Ala Ser Trp Arg Ala Val His Val Thr Arg Thr Arg Leu Leu Arg
272     290                 295                 300
274 gag gga gta agt ttc act ttt gaa cgc cag gaa act ttt act cta cct      960
275 Glu Gly Val Ser Phe Thr Phe Glu Arg Gln Glu Thr Phe Thr Leu Pro
276 305                 310                 315                 320
278 atc cag cca ctt cca cca gat tgg ttg atc atc gcc gag gag cag att     1008
279 Ile Gln Pro Leu Pro Pro Asp Trp Leu Ile Ile Ala Glu Glu Gln Ile
280                 325                 330                 335
282 cgc ctc caa gca ccc ttt ctc gta gat ttt tgg gaa gtg gac gat caa     1056
283 Arg Leu Gln Ala Pro Phe Leu Val Asp Phe Trp Glu Val Asp Asp Gln
284             340                 345                 350
286 tgg gat ggc aaa atc ttc cgc agc cgt cat caa ggc tta cgc tcc cgc     1104
287 Trp Asp Gly Lys Ile Phe Arg Ser Arg His Gln Gly Leu Arg Ser Arg
288         355                 360                 365
290 ctt cag gag cag gcg ccg ctc tct cta cca ttg acc ggg aat gga ctg     1152
291 Leu Gln Glu Gln Ala Pro Leu Ser Leu Pro Leu Thr Gly Asn Gly Leu
292     370                 375                 380
294 ttg tgt gta cgg gta gtg agc cgt gaa ggg gaa tac tat gag ttc aca     1200
295 Leu Cys Val Arg Val Val Ser Arg Glu Gly Glu Tyr Tyr Glu Phe Thr
296 385                 390                 395                 400
298 ggt cga gcc gat agc cct cac ccc gta tcg ttt tga                    1236
299 Gly Arg Ala Asp Ser Pro His Pro Val Ser Phe
300                 405                 410
303 <210> SEQ ID NO: 4
304 <211> LENGTH: 411
305 <212> TYPE: PRT
306 <213> ORGANISM: Unknown
308 <220> FEATURE:
309 <223> OTHER INFORMATION: Environmental DNA
311 <220> FEATURE:
312 <221> NAME/KEY: misc_feature
313 <222> LOCATION: (198)..(198)
314 <223> OTHER INFORMATION: Xaa = any amino acid
316 <220> FEATURE:
317 <221> NAME/KEY: misc_feature
318 <222> LOCATION: (594)..(594)
319 <223> OTHER INFORMATION: N= G, A, C or T
321 <400> SEQUENCE: 4
323 Met Pro Thr Leu Asp Trp Pro Gly Lys Gln Leu Ser Phe Pro Pro Ala
324 1               5                   10                  15
326 Thr Ser Leu His Leu Glu Ser Val Val Thr Glu Gly Ala Glu Ser Pro
327             20                  25                  30
329 Pro Asn Arg Leu Ile Trp Ala Asp Asn Leu Pro Leu Met Val Asp Leu
330         35                  40                  45
332 Leu Ala Glu Tyr Glu Gly Lys Ile Asp Leu Ile Tyr Ala Asp Pro Pro
```

This is a protein sequence - aminos only!
n is not found at position 594

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 07/19/2002
PATENT APPLICATION: US/09/689,343C TIME: 14:59:22

Input Set : A:\NEB-181.ST25.txt
Output Set: N:\CRF3\07192002\I689343C.raw

Please Note:
Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:3; N Pos. 594
Seq#:3; Xaa Pos. 198
Seq#:4; Xaa Pos. 198

VERIFICATION SUMMARY DATE: 07/19/2002
PATENT APPLICATION: US/09/689,343C TIME: 14:59:22

Input Set : A:\NEB-181.ST25.txt
Output Set: N:\CRF3\07192002\I689343C.raw

L:246 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:576
L:247 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:3 after pos.:624
L:359 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:4 after pos.:192